

Sample Disposition Record

Control #: 95-0030
Revision #:
Date Initiated: 05/03/95

LK4369-LAS
0043548

Section 1 - BACKGROUND

AF #: B95-049
JU: 200-BP-5
Project ID: 200-BP-5 RI
Task ID: 7
Sampling Event: 200-BP-5 Groundwater - Round 7
Laboratory: Lockheed
Project Coordinator: R. C. Smith
Task Manager: G. L. Kasza



Section 2 - SAMPLE INFORMATION

Number of Samples: 2
ID Numbers: B0FBH8, B0FBH9
Matrix: Water
Collection Date: 04/24/95

Section 3 - ISSUE

Class: Lab Direction
NCR Number: N/A
Type: Broken Container
Description: Upon receipt at the lab, sample containers for metals and rad analyses were discovered broken.

N/A
R Validation (Print/Sign) _____ Date _____

Section 4 - DISPOSITION

Type: Reject
Description: With customer concurrence, the lab was directed to cancel analyses for these samples. However, the lab had already performed phosphate and nitrate analyses. ERC will be billed for these analyses (phosphate and nitrate) and data reports will be delivered. These were split samples of B0FBD2 and B0FBD3 at well 699-55-57. Replacement splits will be sampled at well 299-E33-12.

R. C. Smith *[Signature]* 5/3/95
Project Coordinator (Print/Sign) _____ Date _____
G. L. Kasza *[Signature]* 5/22/95
Task Manager (Print/Sign) _____ Date _____

N/A
QA (Print/Sign) _____ Date _____

Section 5 - INSPECTION (Issue Class: Nonconformance Only)

Inspection Number:
Inspection Results:

N/A
Inspector (Print/Sign) _____ Date _____



Lockheed Analytical Services

Ms. Joan Kessner
Bechtel Hanford, Inc.
345 Hill
Richland, WA 99352



ANALYTICAL DATA REPORT

FOR

300.0 ANIONS, 300.0 FLUORIDE
AND
300.0 ORTHOPHOSPHATE

LOG-IN NUMBER:	<u>L4369</u>
QUOTATION NUMBER:	<u>Q400000-B</u>
SAF:	<u>B95-049</u>
DOCUMENT FILE NUMBER:	<u>0413596</u>
SDG NUMBER:	<u>LK4369</u>

Lockheed
Environmental Systems & Technologies Co.

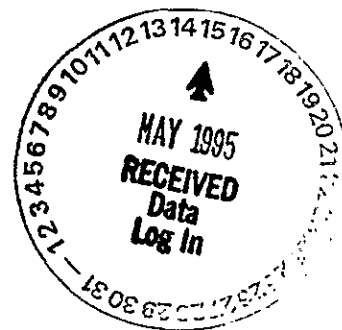
Lockheed Analytical Services
975 Kelly Johnson Drive
Las Vegas, Nevada 89119-3705

Phone: (800) 582-7605
Fax: (702) 361-8146

May 8, 1995

Ms. Joan Kessner
Bechtel Hanford, Inc.
345 Hills
P.O. Box 969
Richland, WA 99352

RE: Log-in No.:	L4369
Quotation No.:	Q400000-B
SAF:	B95-049
Document File No.:	0413596
SDG No.:	LK4369



The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 26 April 1995.

The temperature of the cooler upon receipt was 3°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were not received intact. (See attached Sample Receiving Checklist). Samples were received in time to meet the analytical holding time requirements. All discrepancies identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen Hall at (509) 943-4423.

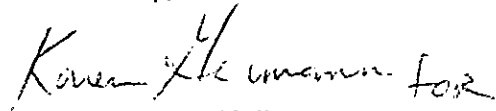
Lockheed Analytical Services

Log-in No.: L4369
Quotation No.: Q400000-B
SAF: B95-049
Document File No.: 0413596
SDG No.: LK4369
Page2

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

" I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manger or a designee, as verified by the following signature."

Sincerely,

A handwritten signature in black ink, appearing to read "Kathleen M. Hall for". The signature is written in a cursive, flowing style.

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

**CASE NARRATIVE
INORGANIC NON METALS ANALYSES**

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

Login L4369 was cancelled by the client on April 27, 1995. However, prior to cancellation the analyses reported here were already completed and per agreement with the client, these analyses are to be reported.

- One water sample was received on April 26, 1995 for L4369, prepared as Batch 426bh and analyzed for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOFBH8	L4369-2	MS, DUP	300.0 Chloride, Nitrate-Nitrite-N, Sulfate, Ortho-Phosphate and Fluoride

Holding Time Requirements

- All samples were analyzed within the method-specified holding time.

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Kay McCann

May 5, 1995

Prepared By

Date

LOGIN CHAIN OF CUSTODY REPORT (ln01)

May 08 1995, 08:25 am

Login Number: L4369
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-1 temp 3; SAF# B95-049 Location: RFG01-43D Water 1 S SCREENING	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:21-OCT-95				
L4369-2 temp 3; SAF# B95-049 Location: RFG19 99A Water 1 S 300.0 CHLORIDE Water 1 S 300.0 FLUORIDE Water 1 S 300.0 NITRATE Water 1 S 300.0 NITRITE Water 1 S 300.0 PHOSPHATE Water 1 S 300.0 SULFATE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:22-MAY-95				
L4369-3 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:04-MAY-95				
L4369-4 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:04-MAY-95				
L4369-5 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:04-MAY-95				
L4369-6 temp 3; SAF# B95-049 Location: RFG01-7B	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-7 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: 156-013 Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:04-MAY-95				
L4369-8 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: 156-012	B0FBH8	24-APR-95	26-APR-95	31-MAY-95

LOGIN CHAIN OF CUSTODY REPORT (ln01)

May 08 1995, 08:25 am

Login Number: L4369

Account: 596 Bechtel Hanford, Inc. * Richland, WA

Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-9 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: 156CART-2	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-10 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: 156CART-2	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-11 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: RFG19 77 B	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-12 temp 3; SAF# B95-049 Location: 156-015 Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
			Hold:04-MAY-95	
L4369-13 temp 3; SAF# B95-049 Location: 156CART-2 Water 1 S NONE	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
			Hold:04-MAY-95	
L4369-14 temp 3; SAF# B95-049 Location: 160	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-15 temp 3; SAF# B95-049 Location: 160	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-16 temp 3; SAF# B95-049 Location: 160	B0FBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-17 SAF# B95-049 Location: Water 1 S NONE	REPORT TYPE	26-APR-95	26-APR-95	31-MAY-95
			Hold:06-MAY-95	

Signature: _____

Date: _____

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Apr 27 1995, 12:28 pm

Login Number: L4369
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-1 temp 3; SAF# B95-049 Location: RFG01-43D Water 1 S SCREENING	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:21-OCT-95		
L4369-2 temp 3; SAF# B95-049 Location: 157 Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:04-MAY-95		
L4369-3 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:04-MAY-95		
L4369-4 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:04-MAY-95		
L4369-5 temp 3; SAF# B95-049 Location: RFG01-7B Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:04-MAY-95		
L4369-6 temp 3; SAF# B95-049 Location: RFG01-7B	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-7 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 156CART-2 Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
		Hold:04-MAY-95		
L4369-8 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 156CART-2	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-9 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 156CART-2	BOFBH8	24-APR-95	26-APR-95	31-MAY-95

Job cancelled per client (JF) 4-27-95 009
042659C

LOGIN CHAIN OF CUSTODY REPORT (1n01)
Apr 27 1995, 12:28 pm

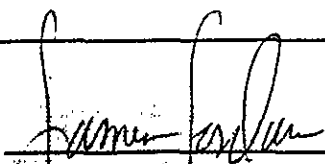
Login Number: L4369
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-10 temp 3; SAF# B95-049, Location: 156CART-2	BOFBH8 GAMMA=CS-137,CO-60,RU-106	24-APR-95	26-APR-95	31-MAY-95
L4369-11 temp 3; SAF# B95-049, Location: 160	BOFBH8 GAMMA=CS-137,CO-60,RU-106	24-APR-95	26-APR-95	31-MAY-95
L4369-12 temp 3; SAF# B95-049 Location: 156-015 Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
			Hold:04-MAY-95	
L4369-13 temp 3; SAF# B95-049 Location: 156CART-2 Water 1 S NONE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
			Hold:04-MAY-95	
L4369-14 temp 3; SAF# B95-049 Location: 160	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-15 temp 3; SAF# B95-049 Location: 160	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-16 temp 3; SAF# B95-049 Location: 160	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-17 SAF# B95-049 Location: Water 1 S NONE	REPORT TYPE	26-APR-95	26-APR-95	31-MAY-95
			Hold:06-MAY-95	

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Signature:

Date:


4-27-95

010
042659

Bechtel Hanford, Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L4369										Page <u>1</u> of <u>1</u> Data Turnaround <input type="checkbox"/> Priority <input checked="" type="checkbox"/> Normal		
Collector <u>K.O. Lee / A R220</u>				Company Contact G.L. Kasza				Telephone (509) 372-9675						
Project Designation 200-BP-5 Groundwater Round 3				Sampling Location 200 East				SAF No. B95-049						
Ice Chest No. <u>RM-110</u>				Field Logbook No. <u>EFL-1125</u>				Method of Shipment Federal Express						
Shipped To Lockheed				Offsite Property No. <u>W95-0-0204-27</u>				Bill of Lading/Air Bill No. <u>2904626575</u>						
Possible Sample Hazards/Remarks				Preservation	HNO3	Cool 4°C	Cool 4°C	Cool 4°C	NaOH	HNO3	Cool 4°C	HCl	Cool 4°C	HNO3
				Type of Container	P/G	G	P	P	P	P/G	G	P	P	P/G
				No. of Container(s)	1	1	1	1	2	8	1	4	1	1
Special Handling and/or Storage Maintain samples between 2°C and 6°C.				Volume	1L	500mL	250mL	500mL	1L	1L	500mL	1L	20mL	1L
SAMPLE ANALYSIS					*1	Anions (IC) F, Co, SO ₄ , NO ₂ , NO ₃ , PO ₄	Alkalinity	TDS	Cyanide	*2	Tritium	Tc-99	Activity Scan	*3
Sample No.	Matrix*	Date Sampled	Time Sampled											
BOFBH8	W	<u>4/24/95</u>	<u>1100</u>	X	X	X	X	X	X	X	X	X	X	
BOFBH9	W	<u>4/24/95</u>	<u>1100</u>											X
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix*		
Relinquished By <u>AG R220</u>		Date/Time <u>4-24-95 1315</u>		Received By <u>ERC</u>		Date/Time <u>4-24-95</u>		*1 ICP Metals - to include Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi. AA Metals - to include Se (unfiltered). *2 Gross Alpha; Gross Beta; Pu-238, -239/240; Sr-90; Gamma Spec - to include Cs-137, Co-60, Ru-106; Total Uranium. *3 ICP Metals - to include Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi. AA Metals - to include Se (filtered). Sample analysis for PO ₄ , NO ₂ , NO ₃ by EPA 300.0 is being requested for information only. The ERC Contractor acknowledges that the 48-hour hold time will not be met. The Activity Scan is for both sample numbers listed on this chain of custody.				S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other		
Relinquished By <u>ERC</u>		Date/Time <u>0900</u>		Received By <u>B.W.H.</u>		Date/Time <u>4-25-95</u>								
Relinquished By <u>ERC</u>		Date/Time <u>4-25-95</u>		Received By		Date/Time								
Relinquished By <u>110</u>		Date/Time		Received By		Date/Time								
LABORATORY SECTION		Received By <u>mmk</u>		Title <u>Sample Custodian</u>		Date/Time <u>4-26-95/0830</u>								
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time						

BECHTEL HANFORD

Collector: K. J. Lee
 Sample No.: BBFBH8
 Date Sampled: 4/24/95 Time: 1100
 Place Collected: 200-BP-5
 Field Information: IL, P-6; ICP Metals to include Ca, Mg, Na, K, Fe, Mn, Si,
Al, Bi; AA Metals to include Se (HNO3) Unfiltered

ID #'s of samples broken
 during shipment. 4-26-95

BECHTEL HANFORD

Collector: K. J. Lee
 Sample No.: BBFEH9
 Date Sampled: 4/24/95 Time: 1100
 Place Collected: 200-BP-5
 Field Information: IL, P-6; ICP Metals to include Ca, Mg, Na, K, Fe, Mn, Si,
Al, Bi; AA Metals to include Se (HNO3) Filtered

BECHTEL HANFORD

Collector: K. J. Lee
 Sample No.: BBFBH8
 Date Sampled: 4/24/95 Time: 1100
 Place Collected: 200-BP-5
 Field Information: IL, P-6; Gross Alpha/Beta, Pu-238, Pu-239/240, Sr-90;
Gamma Spec - Cs-137, Co-60, Ru-106; Total U (HNO3)

BECHTEL HANFORD

Collector: K. J. Lee
 Sample No.: BBFBH8
 Date Sampled: 4/24/95 Time: 1100
 Place Collected: 200-BP-5
 Field Information: IL, P-6; Gross Alpha/Beta, Pu-238, Pu-239/240, Sr-90;
Gamma Spec - Cs-137, Co-60, Ru-106; Total U (HNO3)

BECHTEL HANFORD

Collector: K. J. Lee
 Sample No.: BBFBH8
 Date Sampled: 4/24/95 Time: 1100
 Place Collected: 200-BP-5
 Field Information: IL, P-6; Gross Alpha/Beta, Pu-238, Pu-239/240, Sr-90;
Gamma Spec - Cs-137, Co-60, Ru-106; Total U (HNO3)

WHC/BHI SAMPLE CHECK-IN LIST

L4369

Date/Time Received: 4-26-95/0830 SDG #: Westinghouse

Work Order Number: N/A SAF #: 895-049

Shipping Container ID: RM-110 Chain of Custody # N/A

1. Custody Seals on shipping container intact? Yes ☒ No ☐

2. Custody Seals dated and signed? Yes ☒ No ☐

3. Chain-of-Custody record present? Yes ☒ No ☐

4. Cooler temperature 3°C

5. Vermiculite/packing materials is Wet ☐ Dry ☒

6. Number of samples in shipping container: 21 containers

7. Sample holding times exceeded: Yes ☐ No ☒

8. Samples have: tape hazard labels
 X custody seals X appropriate sample labels

9. Samples are: in good condition leaking
 X broken have air bubbles

10. Were any anomalies identified in sample receipt? Yes ☒ No ☐

11. Description of anomalies (include sample numbers): Five one liter amber
containers were broken. ID#s of broken samples - BDFBH9 had one liter
for filtered metals, BDFBH8 had one liter for unfiltered metals, BDFBH8 had
three 1 liters for RAD analysis. (total sent was 8)

Sample Custodian: Anthony Miller On: 4-26-95

Telephoned To: Kathleen Hall On 4-26-95 By Anthony Miller

MESSAGE CONFIRMATION

SESSION NO. = 801

04/26/95 15:09
ID=LOCKHEED ANALYTICAL SERVICES

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
04/26	15:07	01'39"	509 372 2106	ECM-S	04	OK 0000

014

CH20596

FAX TRANSMITTAL COVER SHEET

DATE: April 26, 1995

NUMBER OF PAGES (including cover) 04

TO: Mr. Clay Smith
FAX #: 509-372-2106

FROM: James Jordan
Lockheed Analytical Services
975 Kelly Johnson Drive
Las Vegas, NV 89119
(702)361-3955 ext. 289
Fax No. (702)361-8146

SUBJECT/COMMENTS:

Here is the COC and sample check-in list for the samples that arrived today.
Call me with instructions or if you have any questions.

Environmental
Restoration
Contractor **ERC Team**
Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OU: 200-BP-5
TSD: N/A
ERA: N/A
Subject Code: 1995 Round 3 Sampling

TO: W. S. Thompson N3-06 DATE: April 21, 1995
COPIES: D. B. Erb H6-01 FROM: S. K. De Mers
Radiological Controls
N3-06/376-2764

SUBJECT: 1995 Round 3 sampling for 200-BP-5

There is no need to perform total activities prior to offsite shipment to NRC licensed labs of samples taken from the attached list of wells.

The wells listed in the attachment were reviewed for radiological content based on the previous 4 years of sampling data. No well listed has a β activity in excess of 100,000 pCi/l ($< .1$ uCi/sample based on a 1 liter sample size) nor any α activity in excess of 10,000 pCi/l ($< .01$ uCi/l based on a 1 liter sample). All wells show activities $\leq 2,000$ pCi/gm (< 2 nCi/gm D.O.T. limit). The highest activity in recent samples is 17,000 pCi/l β and 170 pCi/l α .

Radiological monitoring during sampling will only be required if the wells are located in radiological areas or if the wells themselves are labeled with radiological stickers. Monitoring requirements for down hole work such as pump removal will be determined based on the history of each well on a case by case basis.

skd

016

042659

Well List for 200-BP-5 Round 3

299-E28-1	299-E33-29
299-E28-2	299-E33-30
299-E28-3	299-E33-34
299-E28-4	299-E33-35
299-E28-23	299-E34-2
299-E33-7	299-E34-5
299-E33-12	
299-E33-13	
299-E33-14	
299-E33-15	
299-E33-26	
299-E33-38	
299-E33-39	
299-E33-40	
699-47-50	
699-48-50	
699-49-55B	
699-49-57B	
699-50-53B	
699-52-57	
699-53-55B	
699-54-57	
699-55-57	
699-59-58	
699-60-60	
699-47-60	
699-49-57A	
699-50-53A	
699-52-54	
699-53-55A	
699-53-55C	
699-55-55	
699-57-59	
699-60-57	
299-E32-2	
299-E33-28	

The following well is for 200-ZP-1 Treatability Study: 299-W18-24

BOFBH8
BOFBH9
BW
4-25-95

017

042654

MESSAGE CONFIRMATION

SESSION NO. = 610

04/26/95 12:44
ID=LOCKHEED LAB SAMPLE RECEIVING

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
04/26	12:38	05'46"	5099434218	G3 -S	07	OK	0000

018

04265

Sample Login

Login Review Checklist

Lot Number L4364

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For an effective login review, at a minimum, five reports from the login process are required. These are the chain of custody (or equivalent), the login chain of custody report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning a review, ensure that these five components are available. For jobs with single component samples, the sample summary report may be omitted.

Sample Summary Report

Yes No

N/A

- | | | | | |
|----|--|----------|---|---|
| 1. | Are all sample IDs correct? | <u>X</u> | — | — |
| 2. | Are all samples present? | <u>X</u> | — | — |
| 3. | Are all matrices correct?
(e.g., TCLP analyses should be on a TCLP leachate, field blanks should be water) | <u>X</u> | — | — |
| 4. | Are all analyses on the chain of custody/login quotation included? | <u>X</u> | — | — |
| 5. | Are analyses logged in for the correct container?
(e.g., analyses requiring preservation logged in for a preserved container and vice versa) | <u>X</u> | — | — |
| 6. | Are samples logged in according to laboratory batching procedures?
(e.g., TCLP regular leaching and associated metals/semivolatile organics should be logged in on the same bottle) | <u>X</u> | — | — |

Login Chain of Custody Report

- | | | | | |
|----|---|----------|---|---|
| 1. | Are the Collect, Receive, and Due dates correct for every sample? | <u>X</u> | — | — |
| 2. | Have appropriate sample comments been included?
(e.g., MS/MSD designation, comments from the client concerning method modifications) | <u>X</u> | — | — |

Sample Receiving Checklist

- | | | | | |
|---|--|---|---|--|
| 1. | Are any discrepancies between the chain of custody and the login noted? <u>X</u> | — | — | |
| (e.g., client IDs different on chains of custody and bottle labels, samples not seen, samples lost from breakage) | | | | |

M. Miller

4-26-95

Frankie D. Jones

4-26-95

Primary review signature

Date

Secondary review signature

Date

019

043659

Lockheed Analytical Services Sample Receiving Checklist

Page 1 of

Client Name: Westinghouse

Job No. 64369

Cooler ID:

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt:

3°C

temperature of temp. blank upon receipt:

	Yes	No	* Comments/Discrepancies
custody seals intact	<u>Y</u>		
chain of custody present	<u>Y</u>		
blue ice (or equiv.) present/frozen	<u>X</u>		
rad survey completed	<u>X</u>		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	<u>X</u>		
samples intact		<u>X</u>	<u>5 containers broken</u>
proper container used for sample type	<u>X</u>		<u>see attached sheet</u>
sample volume sufficient for analysis	<u>Y</u>		
proper pres. indicated on the COC	<u>X</u>		
VOA's contain headspace			<u>nlt</u>
are samples bi-phasic (if so, indicate sample ID'S):			<u>nlt</u>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times	<u>Y</u>		<u>Nitrate, Nitrite</u>
samples to subcontract		<u>X</u>	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: NM attn 4-26-95

Sent to the client (date/initials):

** Client's signature upon receipt:

Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt

** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146

042654

020

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOFBH8 T	L4369-1		Water	SCREENING ~
	L4369-2		Water	300.0 CHLORIDE -
	L4369-2		Water	300.0 FLUORIDE -
	L4369-2		Water	300.0 NITRATE -
	L4369-2		Water	300.0 NITRITE
	L4369-2		Water	300.0 PHOSPHATE
	L4369-2		Water	300.0 SULFATE-
	L4369-3		Water	310.1 ALKALINITY
	L4369-4		Water	160.1 TDS ~
	L4369-5		Water	CLP CYANIDE-
	L4369-7		Water	GAMMA SPEC LAL-C
	L4369-7		Water	GR ALP/BETA LAL-
	L4369-7		Water	PU-ISOTOPIC LAL-
	L4369-7		Water	SR-90 LAL-0196 ~
REPORT TYPE -	L4369-7		Water	U TOTAL KPA LAL-
	L4369-12		Water	TRITIUM(H3) LAL-
	L4369-13		Water	TC-99 LAL-0169 -
REPORT TYPE -	L4369-17		Water	EDD - DISK DEL.-
	L4369-17		Water	INORG TYPE 2 RP1
	L4369-17		Water	RAD RPT TYPE 2 ~

LOGIN CHAIN OF CUSTODY REPORT (1n01)
Apr 26 1995, 01:03 pm

Login Number: L4369
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-1 temp 3; SAF# B95-049 Location: 157 Water 1 S SCREENING	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:21-OCT-95				
L4369-2 temp 3; SAF# B95-049 Location: 157 Water 1 S 300.0 CHLORIDE Water 1 S 300.0 FLUORIDE Water 1 S 300.0 NITRATE Water 1 S 300.0 NITRITE Water 1 S 300.0 PHOSPHATE Water 1 S 300.0 SULFATE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:22-MAY-95 Hold:22-MAY-95 Hold:26-APR-95 Hold:26-APR-95 Hold:26-APR-95 Hold:22-MAY-95				
L4369-3 temp 3; SAF# B95-049 Location: 157 Water 1 S 310.1 ALKALINITY	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:08-MAY-95				
L4369-4 temp 3; SAF# B95-049 Location: 157 Water 1 S 160.1 TDS	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:01-MAY-95				
L4369-5 temp 3; SAF# B95-049 Location: 157 Water 1 S CLP CYANIDE	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:08-MAY-95				
L4369-6 temp 3; SAF# B95-049 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-7 temp 3; SAF# B95-049, GAMMA=CS-137,CO-60,RU-106 Location: 157 Water 1 S GAMMA SPEC LAL-0063 Water 1 S GR ALP/BETA LAL-0060 Water 1 S PU-ISOTOPIC LAL-0108 Water 1 S SR-90 LAL-0196 Water 1 S U TOTAL KPA LAL-0168	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
Hold:21-OCT-95 Hold:21-OCT-95 Hold:21-OCT-95 Hold:21-OCT-95 Hold:21-OCT-95				

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Apr 26 1995, 01:03 pm

Login Number: L4369
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L4369-8 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-9 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-10 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-11 temp 3; SAF# B95-049, GAMMA=CS-137, CO-60, RU-106 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-12 temp 3; SAF# B95-049 Location: 157 Water 1 S TRITIUM(H3) LAL-0066 Hold:21-OCT-95	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-13 temp 3; SAF# B95-049 Location: 157 Water 1 S TC-99 LAL-0169 Hold:21-OCT-95	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-14 temp 3; SAF# B95-049 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-15 temp 3; SAF# B95-049 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-16 temp 3; SAF# B95-049 Location: 157	BOFBH8	24-APR-95	26-APR-95	31-MAY-95
L4369-17 SAF# B95-049 Location: Water 1 S EDD - DISK DEL. Water 1 S INORG TYPE 2 RPT + Water 1 S RAD RPT TYPE 2	REPORT TYPE	26-APR-95	26-APR-95	31-MAY-95

Page 2

Signature: MM-lls 023
Date: 4-26-95

CH26596

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0FBH8	Date Collected: 24-APR-95
Matrix: Water	Date Received: 26-APR-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chloride	mg/L	300.0	92.	0.020		26-APR-95	22458	L4369-2
Fluoride	mg/L	300.0	0.40	0.10		26-APR-95	22459	L4369-2
Nitrate-N	mg/L	300.0	22.	0.020		26-APR-95	22460	L4369-2
Nitrite-N	mg/L	300.0	< 0.002	0.010	U	26-APR-95	22461	L4369-2
Ortho Phosphate	mg/L	300.0	0.022	0.10	B	26-APR-95	22462	L4369-2
Sulfate	mg/L	300.0	130	0.10		26-APR-95	22463	L4369-2

VALIDATION SUMMARY

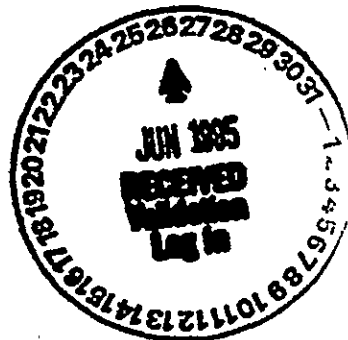


Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

June 26, 1995
LATA95-117

COPY



Ms. Joan Kessner
CH2M Hill
345 Hills
Richland, WA 99352

Subject: VB403.52, SDG LK4369-LAS

Dear Ms. Kessner:

Attached is the data validation report for analytical results for 200-BP-5 Groundwater Round 3 (SDG LK4369-LAS). The package was received by Los Alamos Technical Associates on June 5, 1995.

If you have any questions, please let me know.

Sincerely,

Marsha C Webb

Marsha C. Webb
Deputy Project Manager

Attachment

cc: Jeanette Duncan, CH2M Hill
DJ Smith, LATA
VB403.52
MCW/lb

In

DATA VALIDATION REPORT
for
200-BP-5 Groundwater Round 3
General Chemistry Analysis
SDG LK4369-LAS
LATA VB403.52

Bechtel Hanford Inc.
Richland, Washington

June 26, 1995

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**200-BP-5 Groundwater Round 3
Data Validation Narrative**

INTRODUCTION

All samples in Sample Delivery Group (SDG) LK4369-LAS (VB403.52) were validated at level C as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002, Rev. 2).

The analyses were performed by Lockheed Analytical Services.

ANALYSES REQUESTED

See Table 1.

DATA QUALITY OBJECTIVES

Precision:	Goals for precision were met.
Accuracy:	Goals for accuracy were met.
Sample Result Verification:	Not applicable to summary data packages that contain no raw data.
Detection Limits:	Detection limit goals were met for all sample results as specified in the <i>Quality Assurance Program Plan for 200-BP-5 Groundwater Operable Unit</i> , DOE/RL 88-32, Rev. 1.
Completeness:	The data package was 100% complete for all requested analyses.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of data as unusable.

Table 1
Chain-of-Custody
Analysis Request

LATA ID #: VB403.52

SDG: LK4369-LAS

Sample Information						Analyses Requested																
SAMPLE NO.	DATE COLLECTED	MATRIX	SAF	FIELD QC INFO	TEMP °C	1	2	3	4	5	6	7	8	9	0	1	1	1	1	1	1	1
BOFBH8	24-Apr-95	WATER	B95-049	Split BOFBD2	3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Method References:

Analysis	Method
1. Anions (Cl, F, SO ₄ , NO ₂ , NO ₃ , PO ₄)	300.0
2. Alkalinity	310.1
3. TDS	160.1
4. Cyanide	9010
5. ICP Metals (Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi) (Unfiltered)	6010
6. AA Metals Selenium (Unfiltered)	7740
7. Gross alpha	LAL-91-SOP-0060
8. Gross beta	LAL-91-SOP-0060
9. Plutonium-238, -239/240	LAL-91-SOP-0108
10. Strontium-90	LAL-91-SOP-0196
11. Technetium-99	LAL-91-SOP-0169
12. Gamma Spec (Cs-137, Co-60, and Ru-106)	LAL-91-SOP-0063
13. Total Uranium	LAL-91-SOP-0168
14. Tritium	LAL-91-SOP-0066
15. Activity Scan	Lab Specific
16. ICP Metals (Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi) (Filtered)	6010
17. AA Metals Selenium (Filtered)	7740

NOTES:

- Upon receipt at the lab, sample containers for metals and radiochemical analyses were discovered broken. The lab was directed to cancel the analyses for this sample, however, the lab had already performed the anion analyses. See ROD 95-0030.

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846)*, Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

WHC 1993, *Data Validation Procedures for Chemical Analyses*, WHC-SD-EN-SPP-002, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

DOE 1994, *Quality Assurance Program Plan for 200-BP-5 Groundwater Operable Unit*, DOE/RL 88-32, Rev. 1, Department of Energy-Hanford, Richland, Washington.

GLOSSARY OF VALIDATION APPLIED QUALIFIERS (CHEMISTRY)

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

- U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.
- UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.
- J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.
- BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.
- R- Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency the data are unusable.
- UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

GLOSSARY OF LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Commonly used laboratory general chemistry qualifiers:

- U- Indicates the analyte was analyzed for but not detected in the sample.
- B- Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).

Qualification Summary Table

Qualification Summary Table

General Chemistry

ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
No qualifiers were applied by the validator.					

Comments:

1. B0FBH8 is a split with B0FBD2 (SDG W0533-QES). The split evaluation was cancelled by ROD 95-0030.
2. ROD 95-0030 cancelled the analysis of B0FBH8. However, the laboratory had already performed the anion analysis. The evaluation of the split (B0FBH8/B0FBD2) was also cancelled. Replacement splits will be sampled.

Data Summary Table

**GENERAL CHEMISTRY
DATA SUMMARY TABLE**

LATA ID#: VB403.52		HEIS #:	B0FBH8	
		Date:	24-Apr-95	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Chloride by IC	16887-00-6 (A)	mg/L	92	
Fluoride by IC	16984-48-8 (A)	mg/L	0.40	
Sulfate by IC	14808-79-8	mg/L	130	
Nitrate-N by IC	14797-55-8	mg/L	22	
Nitrite-N by IC	14797-65-0	mg/L	0.002	U
Ortho-Phosphate	14265-44-2	mg/L	0.022	B

Sample Results (Form I's)

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0FBH8	Date Collected: 24-APR-95
Matrix: Water	Date Received: 26-APR-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chloride	mg/L	300.0	92.	0.020		26-APR-95	22458	L4369-2
Fluoride	mg/L	300.0	0.40	0.10		26-APR-95	22459	L4369-2
Nitrate-N	mg/L	300.0	22.	0.020		26-APR-95	22460	L4369-2
Nitrite-N	mg/L	300.0	< 0.002	0.010	U	26-APR-95	22461	L4369-2
Ortho Phosphate	mg/L	300.0	0.022	0.10	B	26-APR-95	22462	L4369-2
Sulfate	mg/L	300.0	130	0.10		26-APR-95	22463	L4369-2

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Checklist

**LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST**

VALIDATION LEVEL:	A	B	C	D	E
VALIDATION PROCEDURE:	<input type="checkbox"/> WHC-CM-5-3, Rev. 0		<input checked="" type="checkbox"/> WHC-SD-EN-SPP-002, Rev. 2		
PROJECT:	200-BP-5 Groundwater Round 3		SDG:	LK4369-LAS	
VALIDATOR:	B MORRIS <i>BM 6-14-95</i>	LATA NO:	VB403.52	DATE:	7-Jun-95
REVIEWER:	A FREIER <i>AF 6-14-95</i>	LAB:	LAS	CASE:	N/A
SAF NO:	B95-049	QAPP NO:	N/A	SAP NO:	DOE/RL 88-32, Rev.1
ANALYSES REQUESTED					
<input checked="" type="checkbox"/> Anions (F, Cl, NO ₂ , NO ₃ , PO ₄ , SO ₄) 300.0	<input checked="" type="checkbox"/> Alkalinity 310.1	<input checked="" type="checkbox"/> TDS 160.1			
SAMPLE NO.	MATRIX	COMMENTS:			
B0FBH8	WATER	The alkalinity and TDS analyses were cancelled due to receipt of broken sample containers. See ROD 95-0030.			

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

YES NO N/A

Is technical verification documentation present?

☒ ☐ ☐

Is a case narrative present?

☒ ☐ ☐

2. HOLDING TIMES

YES NO N/A

Are sample holding times acceptable?

☒ ☐ ☐

See **HOLDING TIME SUMMARY** form

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS

YES NO N/A

Were initial calibrations performed on all instruments?

☐ ☐ ☒

Are initial calibrations acceptable?

☐ ☐ ☒

Were calibration checks performed on all instruments?

☐ ☐ ☒

Are calibration checks acceptable?

☐ ☐ ☒

Validation calculation checks were performed and are acceptable.

☐ ☐ ☒

If NO(s) are checked, see **CALIBRATION DATA SUMMARY** form

**LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST**

4. BLANKS

Were laboratory blanks performed for all applicable analyses?
Are laboratory blank results acceptable?
Were preparation blanks analyzed?
Are preparation blank results acceptable?

YES	NO	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If NO(s) are checked, see BLANK AND SAMPLE DATA SUMMARY form

5. ACCURACY

Were spike samples analyzed at the proper frequency?
Are all spike sample recoveries acceptable?
Were laboratory control samples (LCS) analyzed at the proper frequency?
Are all LCS recoveries acceptable?
Validation calculation checks were performed and are acceptable.

YES	NO	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If NO(s) are checked, see ACCURACY DATA SUMMARY form

6. PRECISION

Were laboratory duplicates analyzed at the proper frequency?
Are all duplicate RPD values acceptable?
Were MS/MSDs analyzed?
Are all MS/MSD RPD values acceptable?
Validation calculation checks were performed and are acceptable.

YES	NO	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If NO(s) are checked, see PRECISION DATA SUMMARY form

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified?
Are field/trip blank results acceptable? (see Blank Data Summary form)
Are field duplicate RPD values acceptable? (see Field QC calculations)
Are field split RPD values acceptable? (see Field QC calculations)
Are performance audit sample results acceptable?

YES	NO	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: Field Split: B0FBH8 and B0FBD2

The evaluation of the split was cancelled by ROD 95-0030. Replacement splits will be sampled.

**LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST**

8. ANALYTE QUANTITATION

YES NO N/A

Was analyte quantitation performed properly?

☐ ☐ ☒

Are results calculated properly?

☐ ☐ ☒

Validation calculation checks were performed and are acceptable.

☐ ☐ ☒

Comments:

9. REPORTED RESULTS AND DETECTION LIMITS

YES NO N/A

Are results reported for all requested analyses?

☐ ☒ ☐

Are all results supported in the raw data?

☐ ☐ ☒

Do results meet the CRDLs?

☒ ☐ ☐

Validation calculation checks were performed and are acceptable.

☐ ☐ ☒

Comments: Upon receipt at the lab, sample containers for metals and radiochemical analyses were discovered broken. The lab was directed to cancel the analyses for this sample, however, the lab had already performed the anion analyses. See ROD 95-0030.

VALIDATION SUMMARY

For deficiencies (major and minor) and comments, please refer to the Qualification Summary Table.

LATA GENERAL CHEMISTRY
DATA VALIDATION CHECKLIST

HOLDING TIME SUMMARY

SDG: LK4369-LAS			VALIDATOR: B MORRIS					DATE: 07-Jun-95		
PROJECT: 200-BP-5 Groundwater Round 3			REVIEWER: A FRIER					LATA NO.: VB403.52		
HEIS-SN	MATRIX CODE	ANALYSIS	DATE COLLECTED	PREP DATE	ANALYSIS DATE	PREP HT (days)	Required HT (days)	ANALYSIS HT (days)	Required HT (days)	VAL Q
BOFBH8	WATER	Anions (F, Cl, SO ₄)	24-Apr-95	26-Apr-95	26-Apr-95	N/A	N/A	2	28	None
BOFBH8	WATER	Anions (NO ₂ , NO ₃ , PO ₄)	24-Apr-95	26-Apr-95	26-Apr-95	N/A	N/A	2	2	None

000017

Laboratory Case Narrative

**CASE NARRATIVE
INORGANIC NON METALS ANALYSES**

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

Login L4369 was cancelled by the client on April 27, 1995. However, prior to cancellation the analyses reported here were already completed and per agreement with the client, these analyses are to be reported.

- One water sample was received on April 26, 1995 for L4369, prepared as Batch 426bh and analyzed for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOFBH8	L4369-2	MS, DUP	300.0 Chloride, Nitrate-Nitrite-N, Sulfate, Ortho-Phosphate and Fluoride

Holding Time Requirements

- All samples were analyzed within the method-specified holding time.

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Kay McCann

May 5, 1995

Prepared By

Date

du 4.22-95

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Chain-of-Custody Information

Bechtel Hanford, Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L4369										Page <u>1</u> of <u>1</u>		
Collector <i>K.D. Lee / A Rizzo</i>				Company Contact G.L. Kasza				Telephone (509) 372-9675				Data Turnaround <input type="checkbox"/> Priority <input checked="" type="checkbox"/> Normal		
Project Designation 200-BP-5 Groundwater Round 3				Sampling Location 200 East				SAF No. B95-049						
Ice Chest No. <i>RM-110</i>				Field Logbook No. <i>EFL-1125</i>				Method of Shipment Federal Express						
Shipped To Lockheed				Offsite Property No. <i>W95-0-0204-27</i>				Bill of Lading/Air Bill No. <i>290 4626575</i>						
Possible Sample Hazards/Remarks				Preservation	HNO3	Cool 4°C	Cool 4°C	Cool 4°C	NaOH	HNO3	Cool 4°C	HCl	Cool 4°C	HNO3
				Type of Container	P/G	G	P	P	P	P/G	G	P	P	P/G
				No. of Container(s)	1	1	1	1	2	8	1	4	1	1
Special Handling and/or Storage Maintain samples between 2°C and 6°C.				Volume	1L	500mL	250mL	500mL	1L	1L	500mL	1L	20mL	1L
SAMPLE ANALYSIS				*1	Anions (IC)- F, Co, SO4, NO2, NO3, PO4	Alkalinity	TDS	Cyanide	*2	Tritium	Tc-99	Activity Scan	*3	
Sample No.	Matrix*	Date Sampled	Time Sampled											
B01BH8	W	<i>4/24/95</i>	<i>1100</i>	X	X	X	X	X	X	X	X	X		
B0FBH9	W	<i>4/24/95</i>	<i>1100</i>										X	
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix*		
Relinquished By <i>AG Rizzo</i>		Date/Time <i>4-24-95 1315</i>		Received By <i>ERC</i>		Date/Time <i>4-24-95</i>		*1 ICP Metals - to include Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi. AA Metals - to include Se (unfiltered). *2 Gross Alpha; Gross Beta; Pu-238, -239/240; Sr-90; Gamma Spec - to include Cs-137, Co-60, Ru-106; Total Uranium. *3 ICP Metals - to include Ca, Mg, Na, K, Fe, Mn, Si, Al, and Bi. AA Metals - to include Se (filtered). Sample analysis for PO4, NO2, NO3 by EPA 300.0 is being requested for information only. The ERC Contractor acknowledges that the 48-hour hold time will not be met. The Activity Scan is for both sample numbers listed on this chain of custody.				S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other		
Relinquished By <i>ERC</i>		Date/Time <i>0900</i>		Received By <i>B. Whitman</i>		Date/Time <i>4-25-95</i>								
Relinquished By <i>AG Rizzo</i>		Date/Time <i>4-25-95</i>		Received By		Date/Time								
Relinquished By <i>AG Rizzo</i>		Date/Time <i>4-25-95</i>		Received By		Date/Time								
Relinquished By <i>AG Rizzo</i>		Date/Time <i>4-25-95</i>		Received By		Date/Time								
LABORATORY SECTION		Received By <i>AG Rizzo</i>		Title <i>Sample Custodian</i>		Date/Time <i>4-26-95/0830</i>								
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time								

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Supplemental Information

Sample Disposition Record

Revision #:

Date Initiated: 05/03/95

Section 1 - BACKGROUND

AF #: B95-049

JU: 200-BP-5

Project ID: 200-BP-5 RI

Task ID: 7

Sampling Event: 200-BP-5 Groundwater - Round 7

Laboratory: Lockheed

Project Coordinator: R. C. Smith

Task Manager: G. L. Kasza

Section 2 - SAMPLE INFORMATION

Number of Samples: 2

ID Numbers: B0FBH8, B0FBH9

Matrix: Water

Collection Date: 04/24/95

Section 3 - ISSUE

Class: Lab Direction

NCR Number: N/A

Type: Broken Container

Description: Upon receipt at the lab, sample containers for metals and rad analyses were discovered broken.

N/A

R Validation (Print/Sign)

Date

Section 4 - DISPOSITION

Type: Reject

Description: With customer concurrence, the lab was directed to cancel analyses for these samples.

However, the lab had already performed phosphate and nitrate analyses. ERC will be billed for these analyses (phosphate and nitrate) and data reports will be delivered. These were split samples of B0FBD2 and B0FBD3 at well 699-55-57. Replacement splits will be sampled at well 299-E33-12.

R. C. Smith

Project Coordinator (Print/Sign)

5/3/95

Date

G. L. Kasza

Task Manager (Print/Sign)

5/22/95

Date

N/A

QA (Print/Sign)

Date

Section 5 - INSPECTION (Issue Class: Nonconformance Only)

Inspection Number:

Inspection Results:

N/A

Inspector (Print/Sign)

Date

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END OF PACKAGE